INSTALLATION & USER MANUAL



Tracking Box for PTZ Camera

Thank You for choosing our tracking box for PTZ Camera!

When you open the box:

☑ Check that the packing and the contents are not visibly damaged. Contact the retailer immediately if any parts are either missing or damaged.

☑ Make sure if the contents are all included as per the packing list.

☑ Do not attempt to use the device with missing or damaged parts. Send the product back in its original packing if it is damaged.

📖 ***The information contained in the document is subject to change without notice.***

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1. SAFETY NOTES --- IMPORTANT!!!

The following important notes must be followed carefully to run the device and respective accessories in total safety.

Use the instructions correctly and fully
Read all safety rules and instructions carefully before operation.

Follow the instructions in the instruction manual. Pay attention to all warnings on the camera and in the instruction manual. Keep the safety notes and instructions for use for future reference.

Attachments & Accessories
Do not use attachments other than those recommended in the instruction manual because this could cause risks to the device. Only use the recommended accessories for the camera for installation and operation.

Protect the video system
Keep it away from rain and humidity to prevent the risk of fire and electrocution.

Do not introduce solids or liquids inside the device to prevent the risk of fire and electrocution. If this should accidentally occur, disconnect the device from the mains and have it inspected by qualified personnel.

Maintenance & Repairs
Always contact a qualified service technician to repair the device. Unauthorized opening or removing the lids may cause fire and electrocution risk and other dangers.

Disconnect all electrical parts from the mains before cleaning.

After any servicing intervention or repair to the device, ask the technician to run a safety check to ensure that everything is working safely.

2. ABOUT THE PRODUCT

The tracking box is a new and cost-effective tracking solution for high speed PTZ cameras. It enables object tracking functions on normal speed domes.

2.1. FEATURES

- ☑ Highly compatible with normal high speed PTZ cameras, with no affect on the existing functions of the cameras;
- ☑ Independent OSD menu;
- ☑ Cost effective solution with no other update cost on the cameras;
- ☑ Up to 4 alarm inputs and 2 alarm outputs;
- ☑ Compact design and easy operation;
- ☑ Auto search and track on moving object, with adjustable precision and tracking state;
- ☑ Auto return to home position/preset and keep tracking after some programmable interval when object is out of adjustable area;
- ☑ Auto activation on power up/reset or as per schedule: after power-up or reset, or as scheduled, zone scan, random scan, auto cruise, pattern scan and tracking;
- ☑ Hi-precision motor providing stable and precise performance;
- ☑ P/T speed adjustable as per zoom times;
- ☑ Manual-controlled scan area adjustable;
- ☑ Auto/Manual start of heating device.

2.2. FUNCTIONS

Object Tracking

In auto tracking mode, a PTZ camera can tracking a moving object in the target area with auto pan, tilt and zoom which realizes smart unattended surveillance.

The device can enable a normal PTZ camera to track a moving object.

Alarm and Track
The device receives alarm signals and as a result, it enables the connected PTZ camera to track a moving object.

Tracking During Cruise
When the camera is cruising among saved presets, it will detect and follow the moving object automatically when it stops at a specific preset; while after the moving object gets lost for pre-defined interval, the camera will go back to its previously stopped preset and cruise to next preset again.

Park Action
When the camera is kept idle for a set interval, it will be regarded as “Park”; there are many actions selectable that you want the camera to operate when in “Park”, such as Cruise, Tracking and etc.

2.3. TECHNICAL PARAMETERS

Interface	RS485 (one to controller, the other to PTZ camera)
Baud Rate	2400bps, 4800bps, 9600bps
Menu	OSD
Spectra Address	0~255
Protocols	Pelco D/P
Power	9~12VDC

Table 1: Technical Parameters

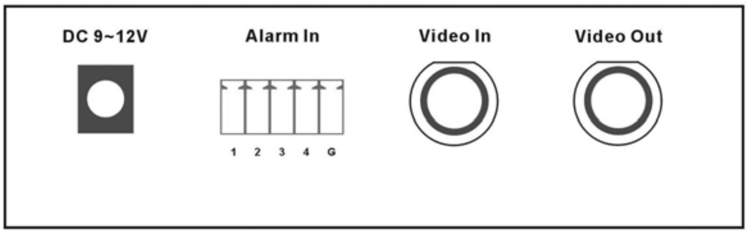
📖 ***The specifications are subject to change without notice.***

3. OPERATION GUIDE

This section contains detailed instructions for installation and operation of the device. These instructions assume that the user has a good knowledge of installation techniques and is capable of adopting safe installation methods.

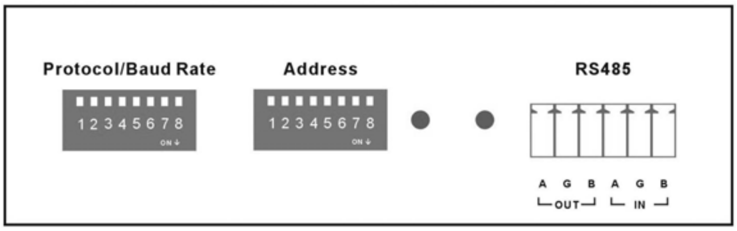
3.1. DIAGRAM AND DIP SWITCH SETTING

Please ensure the power supply is within the named range of the device. Connect the power, alarm and video.



Pic. 1 Power, Alarm, Video

Make sure the DIP switches of protocol, baud rate, address on the device are the same as those of the PTZ camera connected.



Pic. 2 Protocol, Address and RS485

Please refer to the following tables to set baud rate, and communication protocol type and camera address.

POS	**1**	**2**	**3**	**4**	**DESCRIPTION**
Protocol	OFF	OFF	OFF	OFF	PELCO-P
	ON	OFF	OFF	OFF	PELCO-D
POS	**DESCRIPTION**	**5**	**6**	**7**	**8**
Baud Rate	2400	ON	OFF	OFF	OFF
	4800	OFF	ON	OFF	OFF
	9600	OFF	OFF	OFF	OFF

Table 2: Switch Setting of Protocol and Baud Rate

Address	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
17	ON	OFF	OFF	OFF	ON	OFF	OFF	OFF
18	OFF	ON	OFF	OFF	ON	OFF	OFF	OFF
19	ON	ON	OFF	OFF	ON	OFF	OFF	OFF
20	OFF	OFF	ON	OFF	ON	OFF	OFF	OFF
21	ON	OFF	ON	OFF	ON	OFF	OFF	OFF
22	OFF	ON	ON	OFF	ON	OFF	OFF	OFF
23	ON	ON	ON	OFF	ON	OFF	OFF	OFF
24	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF
25	ON	OFF	OFF	ON	ON	OFF	OFF	OFF
26	OFF	ON	OFF	ON	ON	OFF	OFF	OFF
27	ON	ON	OFF	ON	ON	OFF	OFF	OFF

28	OFF	OFF	ON	ON	ON	OFF	OFF	OFF
29	ON	OFF	ON	ON	ON	OFF	OFF	OFF
30	OFF	ON	ON	ON	ON	OFF	OFF	OFF
31	ON	ON	ON	ON	ON	OFF	OFF	OFF
32	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
33	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF
34	OFF	ON	OFF	OFF	OFF	ON	OFF	OFF
35	ON	ON	OFF	OFF	OFF	ON	OFF	OFF
36	OFF	OFF	ON	OFF	OFF	ON	OFF	OFF
37	ON	OFF	ON	OFF	OFF	ON	OFF	OFF
38	OFF	ON	ON	OFF	OFF	ON	OFF	OFF
39	ON	ON	ON	OFF	OFF	ON	OFF	OFF
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41	ON	OFF	OFF	ON	OFF	ON	OFF	OFF
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43	ON	ON	OFF	ON	OFF	ON	OFF	OFF
44	OFF	OFF	ON	ON	OFF	ON	OFF	OFF
45	ON	OFF	ON	ON	OFF	ON	OFF	OFF
46	OFF	ON	ON	ON	OFF	ON	OFF	OFF
47	ON	ON	ON	ON	OFF	ON	OFF	OFF
48	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF
49	ON	OFF	OFF	OFF	ON	ON	OFF	OFF
50	OFF	ON	OFF	OFF	ON	ON	OFF	OFF
51	ON	ON	OFF	OFF	ON	ON	OFF	OFF
52	OFF	OFF	ON	OFF	ON	ON	OFF	OFF
53	ON	OFF	ON	OFF	ON	ON	OFF	OFF
54	OFF	ON	ON	OFF	ON	ON	OFF	OFF
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59	ON	ON	OFF	ON	ON	ON	OFF	OFF
60	OFF	OFF	ON	ON	ON	ON	OFF	OFF
61	ON	OFF	ON	ON	ON	ON	OFF	OFF
62	OFF	ON	ON	ON	ON	ON	OFF	OFF
63	ON	ON	ON	ON	ON	ON	OFF	OFF
64	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
65	ON	OFF	OFF	OFF	OFF	OFF	ON	OFF
66	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF
67	ON	ON	OFF	OFF	OFF	OFF	ON	OFF
68	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
69	ON	OFF	ON	OFF	OFF	OFF	ON	OFF
70	OFF	ON	ON	OFF	OFF	OFF	ON	OFF
71	ON	ON	ON	OFF	OFF	OFF	ON	OFF
72	OFF	OFF	OFF	ON	OFF	OFF	ON	OFF
73	ON	OFF	OFF	ON	OFF	OFF	ON	OFF
74	OFF	ON	OFF	ON	OFF	OFF	ON	OFF

75	ON	ON	OFF	ON	OFF	OFF	ON	OFF
76	OFF	OFF	ON	ON	OFF	OFF	ON	OFF
77	ON	OFF	ON	ON	OFF	OFF	ON	OFF
78	OFF	ON	ON	ON	OFF	OFF	ON	OFF
79	ON	ON	ON	ON	OFF	OFF	ON	OFF
80	OFF	OFF	OFF	OFF	ON	OFF	ON	OFF
81	ON	OFF	OFF	OFF	ON	OFF	ON	OFF
82	OFF	ON	OFF	OFF	ON	OFF	ON	OFF
83	ON	ON	OFF	OFF	ON	OFF	ON	OFF
84	OFF	OFF	ON	OFF	ON	OFF	ON	OFF
85	ON	OFF	ON	OFF	ON	OFF	ON	OFF
86	OFF	ON	ON	OFF	ON	OFF	ON	OFF
87	ON	ON	ON	OFF	ON	OFF	ON	OFF
88	OFF	OFF	OFF	ON	ON	OFF	ON	OFF
89	ON	OFF	OFF	ON	ON	OFF	ON	OFF
90	OFF	ON	OFF	ON	ON	OFF	ON	OFF
91	ON	ON	OFF	ON	ON	OFF	ON	OFF
92	OFF	OFF	ON	ON	ON	OFF	ON	OFF
93	ON	OFF	ON	ON	ON	OFF	ON	OFF
94	OFF	ON	ON	ON	ON	OFF	ON	OFF
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97	ON	OFF	OFF	OFF	OFF	ON	ON	OFF
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99	ON	ON	OFF	OFF	OFF	ON	ON	OFF
100	OFF	OFF	ON	OFF	OFF	ON	ON	OFF
101	ON	OFF	ON	OFF	OFF	ON	ON	OFF
102	OFF	ON	ON	OFF	OFF	ON	ON	OFF
103	ON	ON	ON	OFF	OFF	ON	ON	OFF
104	OFF	OFF	OFF	ON	OFF	ON	ON	OFF
105	ON	OFF	OFF	ON	OFF	ON	ON	OFF
106	OFF	ON	OFF	ON	OFF	ON	ON	OFF
107	ON	ON	OFF	ON	OFF	ON	ON	OFF
108	OFF	OFF	ON	ON	OFF	ON	ON	OFF
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112	OFF	OFF	OFF	OFF	ON	ON	ON	OFF
113	ON	OFF	OFF	OFF	ON	ON	ON	OFF
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115	ON	ON	OFF	OFF	ON	ON	ON	OFF
116	OFF	OFF	ON	OFF	ON	ON	ON	OFF
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125	ON	OFF	ON	ON	ON	ON	ON	OFF
126	OFF	ON	ON	ON	ON	ON	ON	OFF
127	ON	ON	ON	ON	ON	ON	ON	OFF
128	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
129	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON
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140	OFF	OFF	ON	ON	OFF	OFF	OFF	ON
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162	OFF	ON	OFF	OFF	OFF	ON	OFF	ON
163	ON	ON	OFF	OFF	OFF	ON	OFF	ON
164	OFF	OFF	ON	OFF	OFF	ON	OFF	ON
165	ON	OFF	ON	OFF	OFF	ON	OFF	ON
166	OFF	ON	ON	OFF	OFF	ON	OFF	ON
167	ON	ON	ON	OFF	OFF	ON	OFF	ON
168	OFF	OFF	OFF	ON	OFF	ON	OFF	ON

169	ON	OFF	OFF	ON	OFF	ON	OFF	ON
170	OFF	ON	OFF	ON	OFF	ON	OFF	ON
171	ON	ON	OFF	ON	OFF	ON	OFF	ON
172	OFF	OFF	ON	ON	OFF	ON	OFF	ON
173	ON	OFF	ON	ON	OFF	ON	OFF	ON
174	OFF	ON	ON	ON	OFF	ON	OFF	ON
175	ON	ON	ON	ON	OFF	ON	OFF	ON
176	OFF	OFF	OFF	OFF	ON	ON	OFF	ON
177	ON	OFF	OFF	OFF	ON	ON	OFF	ON
178	OFF	ON	OFF	OFF	ON	ON	OFF	ON
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185	ON	OFF	OFF	ON	ON	ON	OFF	ON
186	OFF	ON	OFF	ON	ON	ON	OFF	ON
187	ON	ON	OFF	ON	ON	ON	OFF	ON
188	OFF	OFF	ON	ON	ON	ON	OFF	ON
189	ON	OFF	ON	ON	ON	ON	OFF	ON
190	OFF	ON	ON	ON	ON	ON	OFF	ON
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193	ON	OFF	OFF	OFF	OFF	OFF	ON	ON
194	OFF	ON	OFF	OFF	OFF	OFF	ON	ON
195	ON	ON	OFF	OFF	OFF	OFF	ON	ON
196	OFF	OFF	ON	OFF	OFF	OFF	ON	ON
197	ON	OFF	ON	OFF	OFF	OFF	ON	ON
198	OFF	ON	ON	OFF	OFF	OFF	ON	ON
199	ON	ON	ON	OFF	OFF	OFF	ON	ON
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201	ON	OFF	OFF	ON	OFF	OFF	ON	ON
202	OFF	ON	OFF	ON	OFF	OFF	ON	ON
203	ON	ON	OFF	ON	OFF	OFF	ON	ON
204	OFF	OFF	ON	ON	OFF	OFF	ON	ON
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206	OFF	ON	ON	ON	OFF	OFF	ON	ON
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212	OFF	OFF	ON	OFF	ON	OFF	ON	ON
213	ON	OFF	ON	OFF	ON	OFF	ON	ON
214	OFF	ON	ON	OFF	ON	OFF	ON	ON
215	ON	ON	ON	OFF	ON	OFF	ON	ON

216	OFF	OFF	OFF	ON	ON	OFF	ON	ON
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220	OFF	OFF	ON	ON	ON	OFF	ON	ON
221	ON	OFF	ON	ON	ON	OFF	ON	ON
222	OFF	ON	ON	ON	ON	OFF	ON	ON
223	ON	ON	ON	ON	ON	OFF	ON	ON
224	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
225	ON	OFF	OFF	OFF	OFF	ON	ON	ON
226	OFF	ON	OFF	OFF	OFF	ON	ON	ON
227	ON	ON	OFF	OFF	OFF	ON	ON	ON
228	OFF	OFF	ON	OFF	OFF	ON	ON	ON
229	ON	OFF	ON	OFF	OFF	ON	ON	ON
230	OFF	ON	ON	OFF	OFF	ON	ON	ON
231	ON	ON	ON	OFF	OFF	ON	ON	ON
232	OFF	OFF	OFF	ON	OFF	ON	ON	ON
233	ON	OFF	OFF	ON	OFF	ON	ON	ON
234	OFF	ON	OFF	ON	OFF	ON	ON	ON
235	ON	ON	OFF	ON	OFF	ON	ON	ON
236	OFF	OFF	ON	ON	OFF	ON	ON	ON
237	ON	OFF	ON	ON	OFF	ON	ON	ON
238	OFF	ON	ON	ON	OFF	ON	ON	ON
239	ON	ON	ON	ON	OFF	ON	ON	ON
240	OFF	OFF	OFF	OFF	ON	ON	ON	ON
241	ON	OFF	OFF	OFF	ON	ON	ON	ON
242	OFF	ON	OFF	OFF	ON	ON	ON	ON
243	ON	ON	OFF	OFF	ON	ON	ON	ON
244	OFF	OFF	ON	OFF	ON	ON	ON	ON
245	ON	OFF	ON	OFF	ON	ON	ON	ON
246	OFF	ON	ON	OFF	ON	ON	ON	ON
247	ON	ON	ON	OFF	ON	ON	ON	ON
248	OFF	OFF	OFF	ON	ON	ON	ON	ON
249	ON	OFF	OFF	ON	ON	ON	ON	ON
250	OFF	ON	OFF	ON	ON	ON	ON	ON
251	ON	ON	OFF	ON	ON	ON	ON	ON
252	OFF	OFF	ON	ON	ON	ON	ON	ON
253	ON	OFF	ON	ON	ON	ON	ON	ON
254	OFF	ON	ON	ON	ON	ON	ON	ON
255	ON	ON	ON	ON	ON	ON	ON	ON

Table 3: Address Setting

3.2. OPERATION AT POWER UP

The device employs the default settings the first time it is switched on. Changes to the settings will be permanently stored and will be made available the next time it is switched on. You can return to the default settings by means of the appropriate menu option at any time.

The device will work as follows when it is switched on.

The device will run a calibration procedure and a message showing the following information will appear on the video output OSD (On Screen Display): protocol, communication parameters, and camera address and software version.

Check that the data are suitable for operation. Otherwise, refer to the section in this document that shows how to install the device correctly.

PROTOCOL: PELCO-D
COM: 9600, N, 8, 1
ADDR: 01
SOFTWARE VERSION V4.2

3.3. HOW TO USE OUR CONTROL KEYBOARD

The camera is ready to receive commands from our control keyboard (see figure below) after connecting.



3.3.1. CONTROL KEYPAD COMMAND SYNTAX

Controls can use the joystick, single keys or key combinations.
The key command syntax is shown below.

Key command syntax
The syntax used in this manual for controls using keys consists of various elements (words and three digit numbers). Each command is always in braces and each element is separated by commas. Each word or decimal digit used in the syntax is identified by a corresponding key on our control panel. Words can be enclosed in round brackets, square brackets or no brackets. Three digit decimals are never enclosed in brackets.

The following words only can be used: **PRESET**, **CALL**, **ESC**, **OPEN**, **CLOSE**, **NEAR**, **FAR**, **ZOOM OUT**, **ZOOM IN**, **CAM**, **MON**, **SCAN**, **ENTER**. The decimal digits are: **0**, **1**, **2**, **3**, **4**, **5**, **6**, **7**, **8**, and **9**.

Some application examples of controls are shown in details below.

Using the joystick
A command can also be given simply by moving the joystick because this generates actions on the camera or OSD (On Screen Display) menu.

Using a single key
Pressing a single key can cause camera/device action. For example, the following command will zoom out of the frame. Underling indicates the key is in use.

ZOOM OUT

Key combinations
Pressing a key combination in rapid sequence extents the command set. For example, the following command (select camera address 1) is performed by pressing the following keys:

CAM + **1** + **ENTER**

3.3.2. KEYS “OPEN” AND “CLOSE”

OPEN: To confirm a selection of a menu entry.

CLOSE: To cancel a selection of a menu entry.

3.3.3. PRESET POSITIONS PROGRAMMING AND RECALLING

The camera can store up to 256 panning, tilting and zooming configurations (called preset positions) which can be recalled at any time.

The manual focusing and IRIS opening settings cannot be stored.

📖 *When storing presets, it is important to remember that some are reserved and cannot be either stored or used for positioning the camera.*

The following examples show how to program the free Presets and recall them.

Example: programming preset number 32
1) Position the camera in a certain pan, tilt and zoom configuration. 2) Enter the command **PRESET** + **32** + **ENTER**. From this moment onwards, simply enter the command **CALL** + **32** + **ENTER** to move the camera to the preset position.

3.4. FUNCTION PROGRAM MENU

Use the following control panel command to access the function programming menu.

PRESET + **50** + **ENTER**

At this point, if no password is required for access, the following first level menu will appear on the screen:

```
          MAIN MENU

TRACKING SETTING
CRUISE SETTING
ALARMS
PARK TIME                15S
PARK ACTION              NONE
RESTORE FACTORY DEFAULT
EXIT
```

Screen 1: Main Menu

Simply move the joystick vertically to scroll the menu and point the cursor to the menu item to be selected: at the point, press **OPEN** to access the selected second level.

Simply press **BACK** and use **OPEN** to go back to the previous level menu.

To completely exit a menu on any level, simply select **EXIT** and use the **OPEN** command.

Option	Value	Explanation
TRACKING SETTING		Product information menu (refer to **Section 3.4.1**).
CRUISE SETTING		Display menu (refer to **Section 3.4.2**).
ALARMS		Main programming menu (refer to **Section 3.4.3**).
PARK TIME	1~12HOURS	With this function, the device will resume the function defined in **PARK ACTION** by specifying a value (in 1s, 1m, 1h steps) following a stop or interruption of the performed function and after the programmed time.
PARK ACTION	NONE	No action is performed at the end of the park time
	PRESET1	The camera performs pattern 1 at the end of park time

	PRESET2	The camera performs pattern 1 at the end of park time
	PRESET3	The camera performs pattern 1 at the end of park time
	PRESET4	The camera performs pattern 1 at the end of park time
	CRUISE	The camera performs a cruise (preset sequence) at the end of the park time
	REPEAT LAST	The camera simply resumes the operation it was performing before being interrupted at the end of the park time
	TRACKING	The camera performs a tracking operation at the end of the park time
	CRUIS1	The camera performs a cruise with tracking function enabled at the end of the park time
RESTORE TO FACTORY DEFAULT		Restore all settings to factory default

Table 4

3.4.1. TRACKING SETTING MENU

In the first level menu, select **TRACKING SETTING** to set the tracking function.

```
          TRACKING SETTING

AUTO ZOOM                ON
SIZE SENS                MEDIUM
GRAY SENS                MEDIUM
LOST ACT                 TO HOME &TRA
TRACKING TIME(M)         AUTO
WAIT TIME(S)             15
TRACKING SPEED           AUTO
DEFAULT SETTING
BACK
EXIT
```

Screen 2: Tracking Setting

Option	Value	Explanation
AUTO ZOOM	**ON/OFF**	This option determines if the tracking function is with auto zoom on or off.
SIZE SENS	**LARGE/MEDIUM/SMALL**	This option defines the total dimensions of the object to be tracked. The parameters are **LARGE/MEDIUM/SMALL**. A object larger than one fourth of the screen is **LARGE**. An object smaller than one eighth of the screen is SMALL.
GRAY SENS	**HIGH/MEDIUM/LOW**	This option determines the auto tracking sensitivity. The sensitivity measures the grey scale variations of a certain point in the frame in the unit of time.
LOST ACT	**TO HOME TRACKING**	This option is used to establish the action to be performed if the camera looses the tracked object: the **TO HOME TRACKING** option repositions the camera in the original position (i.e. the position the camera goes to after power up) and tracking is enabled from this position.
	KEEP TRACKING	The **KEEP TRACKING** option keeps the camera in the position reached and the tracking function is kept on waiting for an object to be intercepted again.
	STOP TRACKING	The **STOP TRACKING** option leaves the camera in the position reached and deactivates the tracking function.
TRACKING TIME (M)	**5 ~ 40**	The duration of tracking function. The tracking

		will be disabled after the period.
WAIT TIME	**AUTO,1~15 (MINUTES)**	This option allows setting the max. tracking duration, in minutes, during which the camera automatically tracks moving objects. Once the tracking time has expired, the camera executes the action set in the option "**LOST ACT**", independently of the movement in the scene. If the value "**AUTO**" is set, there is no time limitation on the tracking action and, in case of no movement in the scene at all, the camera executes the option "**WAIT TIME**".
TRACKING SPEED	**AUTO, 1 ~ 5**	This option establishes the camera movement speed. If **AUTO** is selected, the camera is automatically "adapted" to the motion of the target. The **MANUAL** options allow selecting the expected speed of the object to be tracked (1 slow, 5 fast).
DEFAULT SETTING		Change all the tracking settings to default.

Table 5

Advice for Correct Auto Tracking Use

General warnings

☑ The tracking function should mainly be used in indoor environments. Outdoor use is highly problematic: the variety of objects (leafs, flags, litter, etc.) moved by the wind makes use unreliable.

☑ Provide the best lighting possible in the detection zone: in poor lighting conditions, the inevitable presence of noise on the image makes grayscale variations extremely critical. In poor lighting conditions, the camera may easily loose the tracked object.

☑ If IR illuminators are use, remember that:

- The camera must be programmed to operate in B/W only because the Slow Shutter will make tracking unreliable in color mode
- The lighting entirely covers the frame where motion is tracked, possibly by restricting the range of action of the camera in tracking mode.

☑ Avoid background objects in the frame which could trick the motion detector, such as for example Venetian blinds, gates, doors with grid and objects with very marked, contrasting contours. A chequerboard background is certainly the worst condition for satisfactory operation.

☑ Do not use the auto tracking function if the object to be tracked and/or monitored moves too fast.

Recommended control parameters

SIZE SENS: select **SMALL** particularly in poor lighting conditions to improve performance.

GRAY SENS: most false alarms are caused by the tracking of unexpected objects. For this reason, it is preferable to select low sensitivity.

WAIT TIME: particularly, in the case of poor lighting conditions or frames with interference, it is preferable to set the lowest possible time to prevent the camera from constantly tracking unexpected objects (e.g. "video noise" in the frame).

TRACKING SPEED: the **AUTO** setting should always be preferred, unless the object to be tracked does not always move at low, constant speed.

3.4.2. CRUISE

The **CRUISE** menu is used to display and change the cruise settings.

```
            CRUISE

DWELL TIME (SECS)       8
PRESET LIST             1
       1 ON     0 OFF
1234567890         PRETST
0000000000(1-10)

WAIT BEFORE TRA(SEC)    4
BACK
EXIT
```

Screen 3: Cruise

Option	Value	Explanation
DWELL TIME <SECS>	**5 ~ 250**	Duration (in seconds) of the dwelling time on each presetting.
PRESET LIST	**1~3**	The team number of presets. **1** means the first 10 presets (preset 1 ~ 10); **2** means the second 10 presets (preset 11~20); **3** means the second 10 presets (preset 11~20).
WAIT BEFORE TRA(SEC)	**3~6**	The wait time (Seconds) after a preset localization ends and before tracking function starts. This will prevent the camera from fault tracking during a preset localization.

Table 6

3.4.3. ALARMS

The **ALARMS** menu is to display and change the alarm settings.

```
              ALARMS

SEQUENC (SECS)       1
ALARM 1 ACT         NONE
ALARM 2 ACT         NONE
ALARM 3 ACT         NONE
ALARM 4 ACT         NONE
BACK
EXIT
```

Screen 4: Alarms

Option	Value	Explanation
SEQUENCE (SECS)	**1 ~ 250**	Duration time (in seconds) of the action related to each alarm when several alarms occur at the same time.
ALARM ACT (FOR ALARM 1 ~ 4)	**NONE**	No action occurs during the alarm.
	PRESET 1 (~4)	The camera goes to the selected preset.
	CRUISE	The camera performs a cruise after the alarm.
	TRACKING	The camera performs a tracking operation after the alarm.
	CRUISE 1	The camera performs a cruise with tracking function enabled after the alarm.

Table 7

If an alarm is triggered during any automatic operation of the camera (Pattern, Auto Tracking, etc.), the operation in progress is stopped and the camera executes the action that has been set in the **ALARM ACTION** *menu:*

- ☑ *In the event of "***TRACKING***" action, the camera executes the tracking function. Once the tracking action has finished, the camera executes the action set in the option* **PARK TIME ACTION** *or the* **LOST ACT** *in* **TRACKING SETTING MENU***.*
- ☑ *In the event of "***PATTERN, AUTO SCAN, RANDOM SCAN, FRAME SCAN, CRUISE***" actions, the action is executed by the camera permanently and can only be stopped by one of the following actions: any command sent by the operator, the use of the joystick, any alarm event.*

3.5. SPECIAL CONTROL PANEL COMMANDS

The device can be programmed and operated using various quick control panel commands.

Control panel command	Function
PRESET + **50** + **ENTER**	Access main menu
PRESET + **51** + **ENTER**	Start tracking function for a PTZ camera
PRESET + **52** + **ENTER**	Start cruise
PRESET + **53** + **ENTER**	Start tracking function during cruise
PRESET + **222** + **ENTER**	Set the font display in PAL. Need to reboot fo activation.
PRESET + **223** + **ENTER**	Set the font display in NTSC. Need to reboo for activation.

Table 8